

Landscape Character Descriptions of the White River National Forest



Headwaters of the South Fork of the White River

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Preface

The word landscape evokes certain unique and special images and meanings to each of us as individuals. As children we may have attached a sense of place to some small parcel of ground, be it a backyard or an open meadow blooming with the rainbow color of wildflowers.

The rest of our lives then build upon those early impressions, layer upon layer of geographic recognition. Year after year we go back to a stream, yet each time we fish there we read something new into the landscape. It may even be some picnic spot with a backdrop of mountain majesty we can still see in our mind even with our eyes closed.

These places uplift our spirit, but we are hard-pressed to put into words exactly how or why we feel the way we do. The comforting sense of familiarity a prominent granite peak holds for us never quite gets communicated beyond the photo image. “Like all real treasures of the mind, perception can be split into infinitely small fractions without losing its quality. Perception, in short, cannot be purchased with either learned degrees or dollars; it grows at home as well as abroad, and he who has a little may use it to as good advantage as he who has much.”¹

With these difficulties in mind, our team has tried to show you short glimpses of the landscape’s “character” that make the White River National Forest special, not only to us, but to the millions of visitors who come here each year. These feelings of attachment, awe and wonder are naturally brought with you. They are part of the whole human element of the landscape. “Sooner or later, it was suggested, man would not be content with edibles alone, but would find the joy of using all the senses to nourish his inner self. Add to this his sense of satisfaction from seeing more clearly his integral place within the great scheme of things.”² We have tried to combine the human elements of heritage and the social ties to the landscape with the physical characteristics that define the flora and fauna. We hope this will enhance your experience while on the forest.

Clear water from a mountain stream, light upon high alpine soil and rock, and clean air filled with the fragrance of the “ever-green” trees—the fir and spruce and pine—are treasures not found everywhere. Our attempt to combine these elements along with a composite of other resources in this technical document is part of a new direction in land management philosophy. If it helps you feel a sense of belonging in your National Forest System (NFS), then we have succeeded. Join us on a journey of the White River National Forest.

*Our peace of mind, our emotions, our spirit—even our souls—
are conditioned by what our eyes see.
Lady Bird Johnson*

¹ Leopold, Aldo. *A Sand County Almanac*. New York, NY: Oxford University Press, 1949.

² Newton, Norman T. *Design on the Land – The Development of Landscape Architecture*. Cambridge, MA: The Belknap Press of Harvard University, 1971.

Perception includes the aesthetic experience, where the dialogue between perceiver and object is immediate, intense, and profound, seemingly detached from other consequences. But it is also an indispensable component of everyday life.

*Kevin Lynch
in
Managing the Sense of a Region
(Cambridge, MA: MIT Press, 1976)*



Perceptions, mental images of the phenomenal environment, vary from individual to individual according to physiology and experience. Though the nature of the stimulus object is of obvious importance, cultural and other group biases are evident.

*J. Douglas Porteous,
Environment & Behavior
planning and everyday urban life,*



*Reading, MA:
Addison-Wesley Publishing Co, 1977)*

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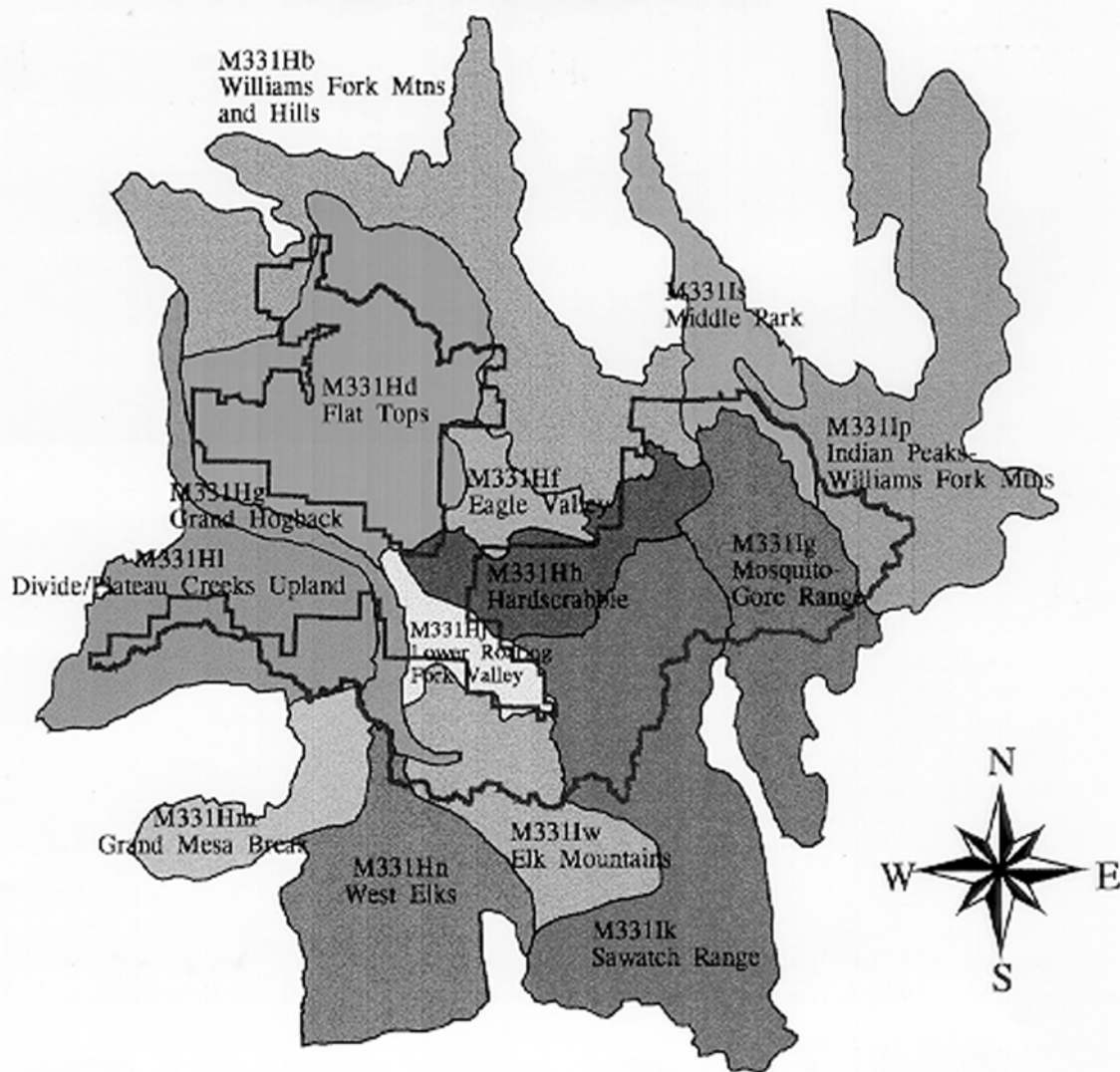
Seeing comes before words. The child looks and recognizes before it can speak. But there is also another sense in which seeing comes before words. It is seeing which establishes our place in the surrounding world; we explain that world with words, but words can never undo the fact that we are surrounded by it. The relation between what we see and what we know is never settled. Each evening we see the sun set. We know that the earth is turning away from it. Yet the knowledge, the explanation, never quite fits the sight.

*John Berger,
Ways of Seeing,
(London: British Broadcasting Corp., 1972)*



Introduction: The following landscape character descriptions have been developed as outlined in the Scenery Management System, directed by the United States Department of Agriculture (USDA). The landscape character descriptions are written at the subsection level of the national ecological hierarchy for the White River National Forest. The Grand Mesa Break and West Elks subsections comprise very little of the White River National Forest and will be covered in the Landscape Character Descriptions of adjacent Forests.

Ecological Subsections of the White River National Forest

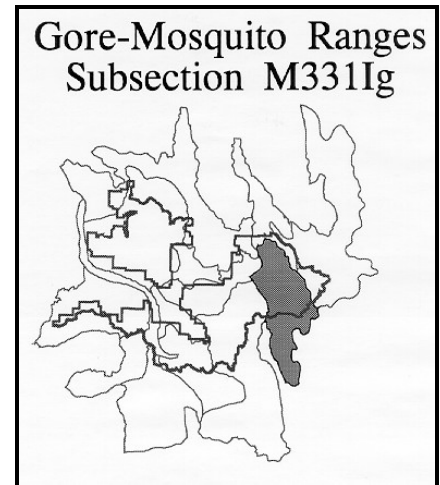


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M331Ig – Gore-Mosquito Ranges

This subsection covers over 639,000 acres of the Colorado Rockies, 59 percent of which is located in the White River National Forest. High elevation alpine peaks characterize the Gore-Mosquito subsection within the White River National Forest. The jagged peaks of the Gore range contrast with the rounded alpine summits of the Tenmile range to the south. The exception is Buffalo Mountain with its dome like appearance. Rounded hills with broad valleys lie below the alpine peaks. In the fall the ranges boast a brilliant spectrum of color. High mountain lakes and reservoirs such as the Dillon Reservoir attract water enthusiasts. Vail, Copper, Breckenridge, and Cooper ski areas set the stage for the winter wonderland. Communities are growing rapidly, thus increasing the urban interface with the forest.



The Gore and Mosquito Mountain Ranges as seen from the top of Keystone Ski Area.



Landform/Geomorphology: Landform features include scoured bowl-like cirque headwalls and floors, U-shaped valleys, couloirs, talus and scree slopes, and rounded mountain slopes. This subsection is composed of north-south laying high relief granitic mountains. Dominant geomorphic processes include glaciation and periglaciation- occurring along the periphery of the glacier. Secondary fluvial stream deposition from the Blue and Swan Rivers along with Tenmile and Gore Creeks have widened the valley floors. The stratigraphy/lithology include uplifted mountain ranges composed of predominately Precambrian igneous and metamorphic rocks including granites and gneisses. Some exposed tertiary intrusive rocks include granodiorite.

Soil Taxa: Soil taxa associated with this subsection include Cryumbrepts at the highest elevations along summits and cirque lands; Cryochrepts and Cryoboralfs occur along the flanks of the ranges within the coniferous forests. Cryoborolls occur along the valley bottoms and lower mountainside slopes supporting aspen, grass, and shrub lands.

Potential Natural Vegetation: The majority of the subsection is within the Subalpine Forest Belt dominated by subalpine fir and Engelmann spruce, lodgepole pine, whortleberries, and elk sedge to

treeline. Above treeline vegetation types include herbaceous dominated meadows, with turflands and snowfields. At lowest elevations aspen and lodgepole pine forests are interspersed with mountain shrublands. In the Willow Creek drainage, the sensitive plant *Cypripedium fasciculatum* has been identified.

Climatic Factors: Elevation of the subsection ranges from 8,500 to 12,500 feet. Precipitation ranges from 25 to 40+ inches annually. Snowfall reaches 200 to 400+ inches.

Waterforms: Perennial streams are common, and small isolated high elevation lakes are present. The Blue River runs through this subsection. Distinctive water features include Cataract Lake and Falls, Booth Falls, Ice Falls-East Vail, Black Lakes, and Dillon Reservoir.

Special or Distinctive Features: Special landforms include Hoosier Pass, Shrine Pass, Tennessee Pass, Vail Pass, Boreas Pass, Red cone, Sentinel Island, Buffalo Peak, Quandary, Grays/Torreys, and Tenmile Canyon. Well known recreation areas include Dillon Reservoir and associated recreation sites, along with all associated ski areas. Destination points and overlooks include Osprey Overlook, Julie's Deck-Mt. of the Holy Cross Overlook, Camp Hale and Sapphire Point. The Hoosier Pass National Resource area is also located in this subsection.

Communities: This subsection contains parts of Summit and Eagle Counties within close proximity to the White River National Forest. The towns of Breckenridge, Dillon, Frisco, and Silverthorne are located in Summit County and the town of Vail is located in Eagle County. Service and trade industries drive the economy of these two counties. The economic activity that feeds these industries is recreation and tourism. The economy of this area is expanding and economic and physical growth is occurring. Construction and real estate industries are expanding rapidly and are major components of the economy.

Man-made Elements: Ski areas include Vail, Breckenridge, Ski Cooper, and Copper Mountain. Other elements are campgrounds, roads, timber harvesting, power lines, community infrastructure, mines, tunnels, Piney Lake Lodge, and various backcountry huts.



Schuss Zesiger Hut

Transportation: Interstate 70 is the major transportation route. The Annual Average Daily Passenger Vehicle Traffic (AADPVT), excluding semis, is 20,000 (Colorado Department of Transportation 10/95). Other highways include Highways 6, 9, and 24. Main Forest Service development roads (FS roads) include 709-Shrine Pass, 714-Camp Hale area, 1725-Cataract Lake, 1-Dillon Reservoir, along with FS roads 10 and 6. There are also four-wheel-drive roads in the subsection. Primary trails include the Continental Divide Trail and the Colorado Trail.

Level of Disturbance: Historic mining districts are present, and the area has been harvested for timber over a long period of time. Much of Summit County south of I-70 was burned or was clear-cut from 1880 to 1900. There are several ski areas in this subsection. Powerline corridors are evident, along with major transportation systems like Interstate 70. Communities are growing rapidly, thus increasing the urban interface with the forest. Fire and insect activities have played a role in the makeup of the vegetative mosaic. Fire suppression across the forest has altered the natural process of vegetative succession. These landscapes are dominated by infrequent, moderate-to-high

intensity fire occurrences. Risk of fire occurrence is usually highest when forests are mature, and when insect and disease have previously occurred. Other factors include forested areas on southern aspects at moderate elevations, dry weather conditions, and an ignition source in the form of either lightning or humans. Historically, intense large fires occurred at the turn of the century, due to both humans and lightning.

Level of Remoteness/Solitude: The level of remoteness/solitude varies depending upon where you are in the subsection. Most of the Eagles Nest Wilderness is located in this subsection. In this area there is a moderate-to-high level of solitude. Much of the wilderness boundary abuts private property, which has been subdivided for housing development and has a low level of solitude. The developed recreation sites around Dillon Reservoir offer areas of moderate-to-low solitude. The rest of the general forest area has a moderate level of solitude.



Eagles Nest Wilderness

Primary Recreation Activities: A variety of winter and summer activities include alpine and Nordic skiing, snowmobiling, scenery viewing, nature studies, camping, fishing, hunting, water sports, and mountain biking, along with other activities.

Cultural Landscape Themes: Six cultural themes can be seen within this division.

1) Dams include both Green Mountain and Dillon Reservoirs. Green Mountain dam had its own small Bureau of Reclamation “compound” with houses for the workers as well as other buildings essential to the operation of the site, all located below the dam. These produced a sort of industrial yet rustic setting that seems to fit in the context of the landscape altered for water impoundment. Dillon Reservoir actually inundated the old town of Dillon and today forms a very large landscape backdrop for “new” Dillon, Breckenridge, and Frisco.



Dillon Reservoir

2) Rural landscapes are evident along the Blue River, and the small community of Slate Creek best exemplifies the ranching theme. This contrasts sharply with those ranches now converted to resort developments and subdivisions, such as Bill's Ranch near Frisco and the once rural landscape along the Snake River between Silverthorne and Keystone.

3) The hard rock mining landscape is now intermixed with private and national forest administered lands from south of I-70, in the southeastern portion of this division near Keystone and Montezuma. But it is still evident in such expressions as tunnels, dumps on talus slopes, and the long high mounds of cobble left from dredging operations in such places as French Gulch, American Gulch, Georgia Gulch, and the Swan River. The Oro Grande Ditch along the Snake River south of Dillon is still noticeable and has left many features along its course. Such mining activity left names like Gold Hill and Barney Ford Hill along with whole towns now gone, called Kokomo and Masonville. The former succumbed to fire and the later to the forces of the natural landscape that come from building in avalanche prone, narrow steep valleys. This mining era lasted longer at Gilman, discussed in the Sawatch Subsection.

4) The narrow river valleys naturally lend themselves to placement of railroads and other transportation routes along their corridors, leaving abandoned railroad grades as linear features still noticeable in many places, though often as segmented fragments. Boreas Pass even contained a small community, set on the now bare slopes of the over 11,000-foot summit. Having been stripped of its timber, the surrounding slopes today contain nothing but stumps as reminders of how some altered landscapes never quite recover. Tenmile Creek had its Wheeler Junction, courted by both the Colorado and Southern Railroad (formerly the Denver South Park and Pacific). The Denver and Rio Grande Railroad, now owned by Southern Pacific, runs through the hardly noticeable ruins of Mitchell siding a few miles short of Tennessee Pass on the Continental Divide. The railroad is scheduled to be abandoned by the end of 1997.

5) Logging by the Hispanic community of Redcliff changed the old mining town into logger's residences whose inhabitants worked along Turkey and Wearyman Creeks, leaving sawmills, loading decks, and sawdust. Evidence of these activities has now melted back into the earth in what today are open parks, some produced by the cutting of timber. Other logging activity features, such as corduroy logs in bogs or crossing wetlands, can still be seen along with a few cabin logs low to the ground. Trees cut in winter and skidded out over the snow have left stumps high off the ground, marking the landscape with the evidence of their former existence.

6) The current cultural landscape theme is one best described by recreation. The presence of four season resort areas typifies this setting. The resorts are visible from the main transportation corridor, Interstate 70. Towns and urban corridors, which suggest wealth and leisure, surround them. Recreation contributes heavily to the sense of place, as illustrated in name recognition with such areas as Summit County, Vail, and Breckenridge. In addition to four-season resort activities, other recreation takes place in this area such as hiking, camping, snowmobiling, four-wheel-driving, and scenery viewing.

Wildlife and Fisheries: “Big game species include elk, mule deer, moose, mountain goat, bighorn sheep, black bear, mountain lion, bobcats, and coyotes. Smaller mammals include snowshoe hare, pine squirrel, beaver, badger, weasel, mink, fox, skunk, and porcupine. Ptarmigan, blue grouse, golden eagle, and many species of songbirds are present. There have been reports of bald eagles near Eagles Nest Mountain” (Eagles Nest Wilderness Technical Report).



Summit of the Gore Range

Wildlife species are composed of species common to boreal forests of North America including the Canadian Rockies and Northern Rockies. The Gore-Mosquito Ranges are dominated by alpine, subalpine, and montane life zones. These life zones and associated wildlife species are described as follows:

The alpine zone is a bare, rocky region covered with snow for the greater part of the year, approximately 11,000 feet to 14,000+ feet. Mountain goats are restricted to this life zone. The following are residents or were historically found in this zone: wolverine – very rare and status unknown, grizzly bear – extirpated, bighorn sheep, coyote, yellow-bellied marmot, pika, and pocket gopher. Birds that characterize the alpine zone include the white-tailed ptarmigan, pipit – summer migrant, and rosy finch.

The sub-alpine zone is described as the upper spruce/fir zone up to timberline, where the trees begin to be dwarfed. The following wildlife species are residents or were historically found in this zone: many of the above species plus pine marten, lynx – status unknown, pine grosbeak, brown creeper, and golden-crowned kinglet.

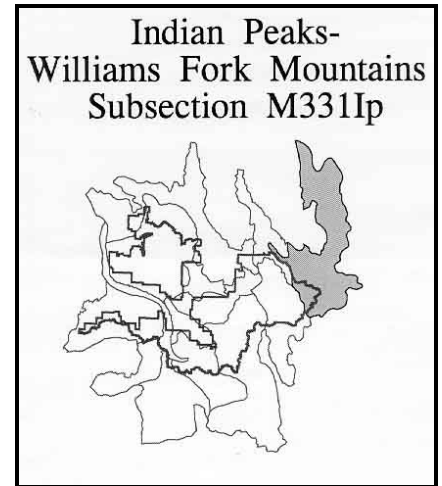
The montane life zone is characterized by extensive forest stands of aspen, lodgepole pine, and the lower part of the Engelmann spruce belt. This zone also has mixed aspen and Engelmann spruce or grassy parks and aspen intermingled. Wildlife species that are residents or were historically found in

this zone: snowshoe hare, red squirrel, yellow bellied marmot, Colorado pocket gopher, black bear, marten, gray jay, olive-sided flycatcher, blue grouse, Lincoln sparrow, and garter snakes.

Native fish species in this subsection include rare Colorado River cutthroat trout, and mottled sculpin in various areas. In the lowest reaches of the subsection the following species can be found: speckled dace, bluehead sucker, and roundtail chub.

M331p – Indian Peaks-William’s Fork Mountains

This subsection contains over 1,156,000 acres of the Colorado Rockies, 7 percent of the subsection is located on the White River National Forest. The Indian Peaks/Williams Fork Mountains within the White River National Forest serves as the backyard to Denver and its suburbs. Over 20,000 vehicles pass through the subsection every day. For thousands of visitors traveling west from Denver, this is the front door to the White River National Forest. The descent into Silverthorne and Dillon is framed by views of the high alpine meadows and the canopy of spruce-fir along the slopes of the Williams Fork Mountain range. Long vistas into the Gore Mountains create a sense of mystery of what lies ahead.



Landform/Geomorphology: This subsection is composed of high relief mountains of the intermontane basin complex. There are also uplifted hills with steep-to-moderately-steep slopes. The landforms are the result of complex erosion and deposition from glaciation, periglaciation, and mass wasting processes. Other landform features include fluvial deposits from the Snake and South Fork of the Williams Rivers. The stratigraphy/lithology include the exposed core of uplifted mountain range composed predominately of Precambrian igneous and metamorphic rocks (granites and gneisses), upper Cretaceous interbedded marine shales, and sandstone, along the western flank of the Williams Fork Mountains.

Soil Taxa: Soil Taxa includes Cryoboralfs and Cryochrepts supporting coniferous forests. Cryumbrepts and Cryorthents lie above treeline supporting alpine vegetation communities. Cryoborolls supporting grasslands and shrublands are found interspersed throughout the subsection.

Potential Natural Vegetation: The majority of the subsection is within the Subalpine Forest Belt dominated by subalpine fir and Engelmann spruce, lodgepole pine, whortleberries, and elk sedge to treeline. Above treeline, vegetation types include herbaceous dominated meadows, with turflands and snowfields. At lowest elevations aspen and lodgepole pine forests are interspersed with mountain shrublands. Scattered Ponderosa pine occurs at levels below 9,000 feet. Douglas fir can be found near Ute Pass.

Climatic Factors: Elevation of the subsection ranges from 8,500 to 12,500 feet. Precipitation ranges from 25 to 50+ inches annually. Snow depth ranges from 200 to 400+ inches.

Waterforms: There are many perennial streams including the Snake River and the South fork of the Williams River, along with Straight Creek. High elevation lakes include Pass, Hassell, and Herman Lakes. Other water features include Snake River Falls along with Branch Reservoir.

Special or Distinctive Features: The Continental Divide is a dominant landform feature, along with the Loveland Pass land bridge. The main water feature in this subsection is Straight Creek. Eisenhower Memorial Tunnel at the top of Loveland Pass is the doorway to the west for Denver and its suburbs.

Communities: This subsection contains part of Summit County. Communities near the White River National Forest include Keystone Village, Montezuma, Summit Cove, and St. John. Keystone Village is a commodity based four-season resort area. There are many areas that are becoming urbanized. Summit County is experiencing growth in primary residences, second homes, retirement homes, and businesses. Some of this growth is occurring away from towns in areas that were historically agricultural or undeveloped.

Man-made Elements: Ski areas include Keystone, Arapahoe Basin, and Loveland. Timber harvesting has played a role in the development of the existing landscape character. Other community service facilities include power lines, community waste systems, mines, and several types of tunnels.

Transportation: Interstate 70 is the major transportation route. This subsection is host to 20,000 AADPVT. Highways 6 and 9, along with the county and Forest Service road systems, complete the transportation system. There are also four-wheel-drive roads in the subsection. The Continental Divide Trail and the Colorado Trail are the primary trails.



Evidence of timber harvesting for control of an insect epidemic

Level of Disturbance: Historic mining districts are present, and the area has been harvested for timber over a long period of time. There are three ski areas in this subsection. Powerline corridors are evident, along with major transportation systems like Interstate 70. The area has also been managed for grazing. Natural processes of fire and insect infestations have occurred in the past and can occur in the future.

Level of Remoteness/Solitude: The level of remoteness/solitude varies depending upon where you are in the subsection. Most of the Williams Fork further Planning Area has a high level of remoteness. The rest of the subsection is rural to urban in nature.

Primary Recreation Activities: Summer and winter activities include alpine and Nordic skiing, snowmobiling, scenery viewing, fishing, hunting, mountain biking, and camping.

Cultural Landscape Themes: The very steepness of this division's high Rocky Mountains is echoed in the county named for the very top of these giant mountain ranges of exposed alpine rock, Summit.

1) One major landscape theme dominates both the prehistory and history of this area, that of transportation. Whether over, around, or through these towering spectacles of nature's challenging presence, men and women have found a way to travel which often results in a noticeable change from the natural landscape to the cultural one. Few mule pack train trails have survived, their evolution having dealt them the same fate as was dealt the old Ute trails, now obliterated almost to the point of extinction. Overwhelmed by more modern methods, in this case wagons, stages, and railroads, each new route carved into the rock was in turn swallowed up by another, usually bigger one. Now, most of the old routes over such passes as Ute, Argentine, Webster, Georgia, and Loveland are either abandoned to the elements or have cars traveling over their gravel or asphalt. Loveland Pass, at one time the only direct paved way from Denver to the Western Slope, has been eclipsed by a truly amazing engineering feat called Interstate 70. It weaves through or around all of the major cities and towns along its route. It is truly our only convenient route of travel, aside from air, in and out of our region; and it may continue to be the major dominant cultural landscape well into the next century.

2) The rural landscape was once a major landscape theme for this division. It denoted in everyone's mind the ultimate image of remoteness, but has been overwhelmed to the extent that it is almost non-existent as a noticed feature of the viewshed. Ranching and agriculture contribute a lifestyle and an image of a past era. They also contribute to open space, sense of community, and a sense of place. This is important to the cultural landscape. It must be noted, however, that the agriculture does not contribute significantly to the current economy of the area. As the area is becoming urbanized, the economic impacts of lost agriculture to the county may be insignificant compared to potential loss of lifestyle, open space, and sense of community.

3) The rural landscape has likewise been overpowered by the dominant urban landscape. Such relics as the Keystone Ranch, the Science Center, and Soda Creek Homestead do exist but they no longer exert dominant rural influences. Keystone Ranch is surrounded by development. Soda Creek Homestead, actually a well-preserved "dude ranch," interfaces with second homes and private golfing. It has been spared the fate of similar ranches such as the Myers Ranch, which has been replaced by the River Run Plaza, where millions will be sunk into condominiums now being built. The actual ranch house was salvaged and sits in the Summit Historical Museum Park in Dillon

4) Next in rank of importance as landscape themes is that of the historic mining era which left evidence today in the form of St. Johns, Argentine, Chihuahua, and Montezuma. Of all these original mining towns, only Montezuma has enough residents to be considered a viable community. These

towns were abandoned when mining in this area became unprofitable. Currently, residents of Montezuma feel the character of the area is threatened by development as it creeps up the Snake River from Keystone toward them. The usual features of tunnels and tailings piles dot the steep mountains around these once vibrant mountain villages.

5) The logging landscape is a minor one, with some expressions of land alteration evident around such places as Wise Mountain. The mountainsides are full of trees, dominated by dog hair thicket patches of lodgepole pine. These patches have replaced the original Englemann spruce vegetation. The once cut areas are now revegetated. The landscape, as it always does, changes and now looks original to the average urban dweller coming to Summit County to recreate.

Wildlife: The Indian Peak-Williams Fork mountains are dominated by alpine, subalpine, and montane life zones. These life zones and associated wildlife are described as follows:

The alpine zone is described as a bare, rocky region covered with snow for the greater part of the year, approximately 11,000 feet to 14,000+ feet. Mountain goats are restricted to this zone, and the following are residents or were historically found in this zone: wolverine – very rare and status unknown, grizzly bear – extirpated, coyote, marmot, pika, and pocket gopher. Birds that characterize the alpine zone include the white-tailed ptarmigan, pipit – summer migrant, and rosy finch.

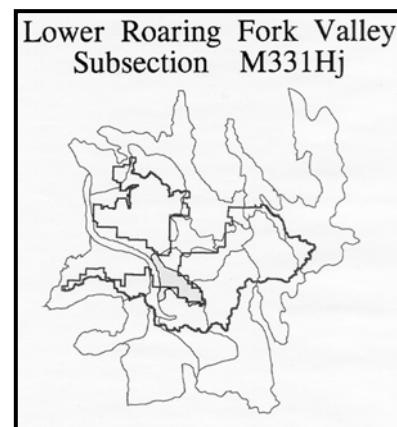
The sub-alpine zone is described as the upper spruce/fir zone up to timberline, where the trees begin to be dwarfed. The following wildlife species are residents or were historically found in this zone: many of the above species plus pine marten, lynx – status unknown, pine grosbeak, brown creeper, and golden-crowned kinglet.

Extensive forest belts of aspen and lodgepole pine characterize the montane life zone and the lower part of the Englemann spruce belt. This zone also has mixed aspen and Englemann spruce or grassy parks and aspen intermingled. Wildlife species that are residents or were historically found in this zone: snowshoe hare, red squirrel, yellow bellied marmot, Colorado pocket gopher, black bear, marten, gray jay, olive-sided flycatcher, blue grouse, Lincoln sparrow, and garter snakes.

Native fish species in this subsection include rare Colorado River cutthroat trout, and mottled sculpin in various areas. In the lowest reaches of the subsection the following species can be found: speckled dace, bluehead sucker, and roundtail chub.

M331Hj – Lower Roaring Fork Valley

This subsection covers over 179,000 acres of the Colorado Rockies, of which 20 percent is located on White River National Forest lands. This subsection lies central to the Forest, and is mainly comprised of non-NFS lands. The Roaring Fork River winds its way to its confluence with the Colorado River. The river has created terraces and benches that compose most of the valley features. These areas easily conformed to community development. Rolling hills outline the terraces and benches. Highway 82 parallels the Roaring Fork



River. This is a key transportation corridor, providing a commuting route for Aspen workers living elsewhere. Dense rural development is a major component of this subsection. A portion of the West Elk Scenic Byway runs through the west side of the subsection. The Crystal River has cut a moderately narrow canyon with spectacular rock formations, and fall colors abound. The Avalanche Creek drainage has outstanding scenery with the presence of Big Horn Sheep on the steep rocky cliffs.

Landform/Geomorphology: This subsection is composed of an alluvial valley flanked by terraces and structural benches along the Roaring Fork and Crystal Rivers. Alluvial plains and fans, terraces, and benches are common landform features influenced by glacial and glaciofluvial processes and further altered by active stream cutting. The stratigraphy/lithology include Pleistocene glaciofluvial deposits and quaternary alluvium along streams, with some older pediment gravels flanking the valleys. The area includes Paleozoic sandstones, conglomerates, and evaporite formations.

Soil Taxa: Soil taxa include Fluvaquents and Endoquolls adjacent to rivers and streams. Torriorthents, Argiustolls, and Haplustolls are associated with montane shrublands. Eutroboralfs and Haploborolls are associated with Douglas-fir forests.

Potential Natural Vegetation: A complex of montane uplands and riparian zones support cottonwood, Colorado blue spruce, and tall willows along main river courses. Uplands composed of Douglas fir, Pinon pine-juniper, Gambel oak, serviceberry, and sagebrush.

Climatic Factors: Elevation of the subsection ranges from 5,900 to 6,500 feet. Precipitation ranges from 15 to 18 inches annually.

Waterforms: Perennial drainages are common and few lakes are present. Wetland complexes associated with main river courses are also present. The Roaring Fork, a superior quality fishery, and Crystal River, adjacent to the West Elk Scenic Byway, run through the subsection. The Crystal River has a few hot springs that influence recreational use of the area, as well as the fish habitat of the stream. The Wildcat Reservoir is also included.

Special or distinctive Features:

Features include a portion of the West Elk Scenic Byway and the Avalanche Creek Drainage.



Elk Scenic Byway

Communities: This subsection contains part of the counties of Garfield, Eagle, and Pitkin. Within close range of the forest are the towns of Carbondale and Glenwood Springs in Garfield County, El Jebel and Basalt in Eagle County, and a portion of Aspen in Pitkin County. These areas illustrate how the lifestyle and the economy of an area do not always reflect the same activities. The lifestyle of the area ranges from rural ranching to urban. The economy, however, is driven by service industries, primarily tourism and recreation services. This apparent difference is also reflected in the commuting patterns of workers in the Upper Roaring Fork Valley. Many people work in and near

Aspen and live down the Roaring Fork Valley in El Jebel, Carbondale, Glenwood Springs, and other areas.

Man-made Elements: Man-made elements include the Dinkle Lake picnic area, Snowmass and Buttermilk ski areas, evidence of historic mining, an active alabaster mine, residences in rural settings, and suburban to dense rural development. Agricultural fields are scattered through the subsection. Golf courses are a dominant feature of the valley.

Transportation: Highway 82 is the major transportation route linking travelers off of Interstate 70 through Glenwood Springs through Carbondale into Aspen.

Level of Disturbance: Urban and agricultural development, with Highway 82 as a major transportation corridor between lower and upper valley areas, has impacted the natural character of the valley. Snowmass and Buttermilk ski areas are in this subsection. Communities are developed on the terraces of the valley.

Level of Remoteness/Solitude: The area is an International Tourist destination with close proximity to Aspen, Colorado. The level of remoteness varies depending upon your location in the subsection and recreation opportunity spectrum (ROS) level.

Primary Recreation Activities: Some winter sports activities include Alpine and Nordic skiing, snowmobiling, and snowboarding. Other recreation activities include scenery viewing, camping, fishing, hunting, and mountain biking.

Cultural Landscape Themes:

1) The dominant cultural theme can be best described by the visual landscape between Glenwood Springs and Carbondale, and the word for its characteristics is heritage. The heritage of open lands dedicated to farming and ranching as a way of life has passed from generation to generation. Indeed, a planning effort entitled “Lower Roaring Fork Open Lands Heritage Program” captured the depth of this meaning when it produced a plan for *Conserving Open Lands for the Future* in the fall of 1996. The threats to this working landscape of open meadows, irrigated fields, and farm and ranch buildings that reflect a direct earthy and rooted connection to the land itself are high density dwellings planned for maximum build out. Mostly in private ownership, this whole valley is seeing massive development that replaces this pleasing-to-the-eye historic rural setting with subdivisions and golf courses. Even the names of such creeks as Cattle Creek and Potato Bill Creek that flow into the Roaring Fork River reflect this heritage. To show the importance of this historic landscape, the *Conserving Open Lands for the Future* report says, “Agriculture supported the immigration to and settlement of the area by gold, silver and coal miners. As a result, the landscape today reflects the cultural heritage of agriculture and its pattern of settlement” (page 6). The report also mentions the urgency of what is being lost by this rapid growth: “As development extends south, up the Roaring Fork Valley, Glenwood and Carbondale risk losing the open lands that provide a sense of entry and define the small town rural character of both communities” (page 6).

2) Railroad landscape themes exist as three major historic railroad grades. The Denver and Rio Grande Western rails, along with minor coal mining spurs, are still in place from Glenwood Springs to Aspen, though no trains move along its tracks. A consortium of local governments is trying to purchase this right of way in the hope of providing a Glenwood Springs to Aspen commuter rail

corridor. Some minor railroad grades were used for coal mining spurs. Abandoned grades such as the Jerome Park Branch of the Colorado Midland Railroad from Cardiff, just south of Glenwood Springs, to Jerome Park, west of Carbondale, are segmented due to housing developments. They offer no chance for preservation in place as pedestrian routes in the form of “rails to trails” projects are developed. The other abandoned railroad grade of the Crystal River Railroad, up the Crystal River from Carbondale, can still be seen hugging the eastern side of the narrow confined valley. But it too is segmented and broken up by private development, which is rapidly changing the landscape character of the Crystal River Valley from rural to both scattered individual houses and urban housing clusters. The same trends are occurring in the Fryingpan River drainage.

3) The current cultural landscape reflects a mix of traditional uses and urban uses. Traditional uses such as ranching and agriculture are in competition with urban uses of four-season resorts, second homes, and many types of recreation. The Roaring Fork corridor provides easy access for scenic driving, water sports, hiking, camping, and other recreation activities. The many outdoor opportunities is one reason many people value this cultural landscape.

Wildlife: The lower Roaring Fork valley is dominated by montane and lower montane life zones. These life zones and associated wildlife are described as follows:

The montane life zone is characterized by extensive forest stands of aspen, lodgepole pine, and the lower part of the Engelmann spruce belt. This zone also has mixed aspen and Engelmann spruce or grassy parks and aspen intermingled. Wildlife species that are residents or were historically found in this zone: snowshoe hare, red squirrel, yellow bellied marmot, Colorado pocket gopher, black bear, marten, gray jay, olive-sided flycatcher, blue grouse, Lincoln sparrow, and garter snakes.

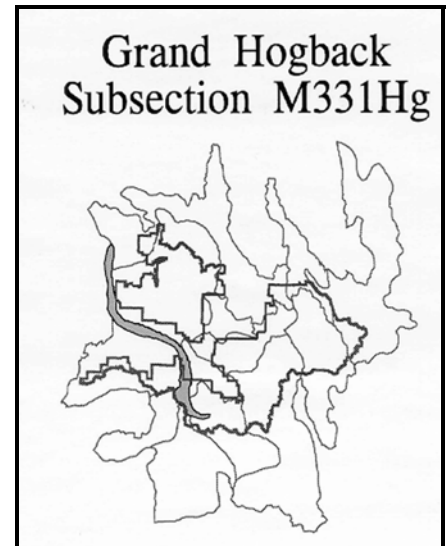
The semi-arid or lower montane zone is an intermediate between the upper Sonoran and the Boreal-montane zones, with the lower limit marked by an approach to desert condition and the upper limits overlapping the boreal zone characteristics. Species that are characteristic, but are not restricted to this life zone are: cottontail, sage grouse, saw-whet owl, sharp-shinned hawk, green-tailed towhee, white-tailed swift, MacGillivray's warbler, and Virginia's warbler.

The river valleys provide winter habitat for Bald Eagles.

Fish species native to this subsection include rare Colorado River cutthroat trout, speckled dace, mottled sculpin, bluehead sucker, roundtail chub, mountain whitefish, and the flannel mouth sucker. The Colorado squawfish has been extirpated from this subsection.

M331Hg – Grand Hogback

This subsection comprises over 216,000 acres of the Colorado Rockies, of which 28 percent is located on the White River National Forest. The Grand Hogback is a distinctive landform with a series of uneven ridges and hogbacks running from Meeker to Marble. Only the southern most portion of the Grand Hogback Subsection is covered. At lower elevations the subsection is dotted with pinon pine juniper intermingled with Douglas-fir and aspen at higher elevations. The grasslands are used by the ranchers for cattle grazing. The hogback formation contains coal. Mining developments are frequent occurrences throughout the subsection. Sunlight ski area is situated in the central west portion of the Grand Hogback.



Grand Hogback

Landform/Geomorphology: Landforms are generally long asymmetrical ridges with hogbacks that are very distinctive from the surrounding landforms. Features of this subsection include a series of long, narrow parallel ridges and elongated basins. Colluvial slopes and alluvial fans altered and influenced by mass wasting and fluvial processes are active in this subsection. The Grand Hogback is composed predominately of monoclines and hogbacks on the western side of the White River Uplift. Ridges are composed of upper Cretaceous sandstone, siltstone, shale, and interbedded coal seams.

Soil Taxa: The soil taxa include Torriorthents, and Camborthids supporting woodlands. Cryoborolls, Haploborolls, and Argilborolls are associated with shrublands and grasslands.

Potential Natural Vegetation: Pinon pine-juniper woodlands cover steep side slopes across the subsection. Mountain shrublands include sagebrush, Gambel oak, serviceberry, and bitterbrush intermixed with grasslands.

Climatic Factors: Elevation of the subsection ranges from 5,300 to 8,500 feet. Precipitation ranges from 14 to 25+ inches annually.

Waterforms: Waterforms consist mainly of intermittent drainages. A small portion of the Crystal River and several tributaries are located in the southern part of the subsection. Elk Creek, Rifle

Creek, and the White River run through the northern end. A segment of the Colorado River lies centrally within the subsection. The Rifle Gap, Grass Valley Reservoir is present.

Special or Distinctive Features: Open parks help create the vegetative mosaic to give it a distinctive character. Hayes Creek Falls is a popular photo point on the West Elk Scenic Byway.

Communities: The following communities occur within the subsection: New Castle in Garfield County, Meeker in Rio Blanco County, and Marble in Gunnison County. These communities represent diverse economic areas. The Meeker area has maintained the agricultural base it was founded upon. Marble maintains its original mining base. New Castle was originally a transportation center, located in the Colorado River, but now is a bedroom community for Glenwood Springs and resort areas. All of these areas, however, are experiencing growth and urban development.

Man-made Elements: Man-made elements include timber harvesting, natural gas developments, Thompson Creek Mine, cattle grazing, coal mining, and communication sites. Sunlight Ski area is in this subsection. The Bogan Flats Campground along the West Elk Scenic Byway is also present.



Sunlight Ski Area

Transportation: Travelways include Four Mile Road, Interstate 70, and a segment of Highway 82. The Bufford/Newcastle Road begins in the Hogback, and Highway 13 joins Rifle and Meeker. The Southern Pacific Railroad main line parallels Interstate 70.

Level of Disturbance: Past and present activities on the landscape include timber and range management. Mining activities are still in operation. High rank coal ore is mined in isolated basins within the hogback, such as Coal Basin in Pitkin County. Most of the coal seam near New Castle has been burning for decades, and is known as Burning Mountain. Ranching and agricultural lands are common.

Level of Remoteness/Solitude: Level of remoteness/solitude is roaded natural

Primary Recreation Activities: Christmas tree cutting and hunting are the dominant activities in the subsection from Glenwood Springs and North. Snowmobiling, alpine and cross country skiing, scenery viewing, mountain biking, dog sledding, snow shoeing, and camping are the main activities from Glenwood Springs and South.

Cultural Landscape Themes:

1) In the northern half of this division, the dominant theme in the cultural landscape is that of farming and ranching. Indeed, most of the farming is in support of livestock, with alfalfa being grown in the open fields. Although three mines are shown on forest maps—Black Diamond, Lion Canyon, and Fairfield—they do not rate second notice and are overpowered by the checkerboarded open cultivated lands in this area west of the town of Meeker, set apart from the actual hogback. Without the historic sign telling of the Meeker Incident, you would never know that the only Ute uprising, resulting in their removal to reservations, occurred in these private fields. Even the exact locations of many Ute trails that merge in Meeker, including the one down Flag Creek, are unknown today. As you travel southward toward Rifle, these open lands contain fewer dwellings and

outbuildings, seeming more isolated and remote. A few historic ruins stand out to the west of Highway 13, the only paved road following the western edge of the actual hogback formation. Some of the coalmine shafts that start to appear toward Rifle Reservoir have been reclaimed.

2) In the modern setting, the reservoirs along the eastern side of the Hogback support recreation and agriculture. One small lake impounded behind an earthen dam similar to Rifle Reservoir is called Grass Reservoir. Unlike the dam and lake at Rifle Gap, no motorboats are allowed on Grass Reservoir. Fishing, camping, and picnicking are the dominant forms of recreation for this cultural landscape theme.

Traveling north-to-south on the eastern side of the hogback, the agricultural open lands seem more evident and more a part of the actual hogback as they sit up closer to it. All the way to New Castle, this humanly altered landscape gives a sense of belonging in time and space to all ages, though its presence is only a hundred years old. There is one other major working farm and ranch area in this division, Dry Park. From a few miles south of Glenwood Springs on the eastern side of the hogback, its open high meadows and parks extend to Edgerton Creek. Situated on a mesa between the Roaring Fork River and Four Mile Creek, the scattered ranch homes that break this stretch of open viewshed appear almost royal or regal in their rustic eloquence. Currently Four Mile Creek on the way to Sunlight Ski Area is being developed for high-density housing.

From the gap the Colorado River makes in the Hogback east of New Castle, the evidence of man's presence in the form of coal mining features is much more evident on the ridge, aptly named Coal Ridge. A poorly preserved mine tipple along with tunnel entrances and some features such as roads to the mines are being encroached upon by modern development along the Colorado River. A little further toward Glenwood Springs, South Canyon shows little evidence of being another coal mining area, which once had buildings lining its steep slopes. Where mountains seem to have swallowed the actual hogback to the east of the town of Glenwood Springs, the old ski runs in the area, though overgrown with oak brush, are still seen. From south of town, in old Cardiff where the small airport now sits, the abandoned bed of the Jerome Park branch of the Colorado Midland Railroad hugs the foothills for a few miles. From the old Sunlight mine it cuts back through the smaller hogback on to Jerome Park, through the old town of Marion, where little is left, on past the Union coke oven ruins and on to the end of its line at Spring Gulch mine. At one time the town of Spring Gulch, associated with the mine, sprawled out across the park. But now, few cross-country skiers who race along the Spring Gulch Nordic tracks would know the town ever existed. A few small segments of the old tracks of the Edgerton Creek Wagon Road are still visible, but mostly replaced by asphalt that leads to the now abandoned Thompson Creek coal mine. Another railroad ran from the Crystal River valley a few miles south of Carbondale through the hogback into part of the Thompson Creek drainage. In a world alone and apart from the highly used Jerome Park, this now abandoned roadbed hides many cultural landscape features along its narrow confined course, such as well-constructed rock bridge abutments. The hogback toward its extreme southern end becomes lost in the Rocky Mountains, ending at McClure Pass. But hidden within this area lies Coal Basin, at one time a busy place with a town site and narrow gauge railroad which ran from the San Juan and Crystal River Railroad at the partially still standing Redstone coke ovens. Modern coal mining ended in the late 1980s and most all of the tunnel locations have been obliterated in reclamation efforts which have attempted to blend human evidence back into the natural landform.

Roads and urbanization that occur along the length of the Grand Hogback characterize the current landscape character. Highway 13, Interstate 70, and highways 82 and 133 run next to and through the subsection. Urbanization tends to occur along easily accessible travel ways, which include the roadways through this area.

Wildlife:

The Grand Hogbacks are dominated by lower montane and arid life zones. These life zones and associated wildlife are described as follows:

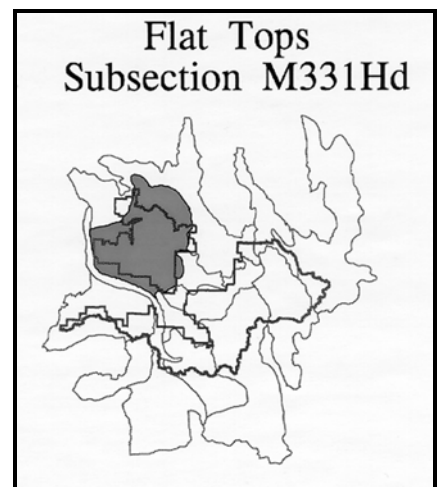
The semi-arid or lower montane zone is an intermediate between the upper Sonoran and the Boreal-montane zones, with the lower limit marked by an approach to desert condition and the upper limits overlapping the boreal zone characteristics. Species that are characteristic, but are not restricted to, this life zone are: cottontail, sage grouse, saw-whet owl, sharp-shinned hawk, green-tailed towhee, white-tailed swift, MacGillivray's warbler, and Virginia's warbler.

The arid or upper Sonoran zone describes the lower elevations traversed by rivers such as the White River and Grand (Colorado) River, generally characterized by the bunch-like growth of desert shrubs, commonly termed sagebrush, greasewood, and rabbitbrush.

There are few fishable streams in this subsection. Both Rifle Gap and Grass Mesa Reservoirs provide lake fishing opportunities.

M331Hd – Flat Tops

The Flat Tops Subsection comprises 1,101,649 acres of the Colorado Rockies, of which 60 percent is located on the White River National Forest. The White River Plateau is referred to as the Flat Tops. The perimeter of this plateau is sharply defined by sheer volcanic escarpments. On the gently rolling side slopes of the plateau you will find a mixture of aspen, and shrubs intermingled with spruce/fir species. As you move toward the top of the plateau the vegetation makes a transition. The spruce/fir species become dominant over the aspen and shrubs. Once on top, there is a mosaic of spruce/fir stands that are divided by parks and meadows until you reach the alpine tundra above timberline. A few aspen are dispersed within the stands, and are dominant on the western portion. The western and middle portions are dominated by the presence of dead Englemann spruce. This is the result of a bark beetle epidemic in the early 1940's. Patches of timber stands are found randomly scattered over the plateau. The plateau contains several openings with exposed limestone rock formations, sink holes, scenic high elevation lakes, and wetlands. Color contrasts in the fall create a spectacular view. Large panoramic vistas are quite frequent on top of the Flat Tops. It is in this subsection that the wilderness concept was born at Trappers Lake.



Landform/Geomorphology: This subsection is composed of a complex of broad park-like uplands with plateaus reaching above treeline, along with mountains and steeply flanked canyon side slopes. Deeply dissected valleys with some scoured bowl-like cirque headwalls and glaciated ridglands are also features of the Flat Tops. The plateau is steeply sided along the Colorado River valley with deep canyons lined with shear rock cliffs.



Trappers Lake, Amphitheater in the background

Gradually the plateau blends into the low relief Yampa-Williams Fork Mountains about 40 miles to the north. Geomorphic processes include glaciation with fluvial and colluvial influences, along with mass wasting. The stratigraphy/lithology of this subsection is broadly characterized by Cenozoic and Mesozoic sedimentaries overlain with Tertiary volcanics on highest elevations.

Soil Taxa: Cryoboralfs and Cryochrepts are associated with coniferous forests. Cryoborolls are associated with aspen forests, grasslands, and some shrublands. Cryaquolls are associated with riparian meadows. Cryumbrepts are associated with grasslands above treeline.

Potential Natural Vegetation: Forest species include Englemann spruce, subalpine fir, Douglas fir, blue spruce, and aspen. Subalpine grasslands and meadows are diverse and may include Thurber and Idaho fescue, Wheeler bluegrass, Porter ligusticum, American vetch, and aspen peavine. Lower elevation shrublands include gamble oak, serviceberry, pinon pine, juniper, and sagebrush. Grasslands and meadows above treeline include kobresia, golden avens, cliff sedge, and tufted hairgrass.



West of Heart Lake

The gray skeletons of the dead spruce trees are scattered across the plateau, as a result of the spruce bark beetle epidemic in the late 1940s through early 1950s. The rigid form of the standing dead trees contrasts with the rest of the vegetative mosaic.

Climatic Factors: Elevation of the subsection ranges from 6,000 to 12,500 feet. Precipitation ranges from 28 to 38 inches annually.

Waterforms: Many perennial streams are present with a few scattered lakes including Heart Lake, Trappers Lake, Meadow Lake, Marvin Lakes, Hanging Lake, Deep Lake, and Deep Creek. The South Fork of the White River is a potential wild and scenic river.

Special or Distinctive Features: Features include Flat Tops Scenic Byway, Grizzly Creek, Hanging Lake, and Glenwood Canyon. Both Deep Creek and South Fork of the White River are potential Wild and Scenic Rivers. Other features include Meadow Lake, Blair Mountain area, Windy Point, Rifle Creek, Three Forks Area, Big Mountain, Trappers Lake Area, Chinese Wall, Big Marvine Peak, Spring Cave, Wall Lake, Lost Lakes, Twin Lakes area, Mirror Lake, the Clinetop area, Shingle Peak, Dome Peak, and Turret Peak. Numerous caves are found within the plateau rim. The Oakridge State Wildlife Area is within this subsection. From the plateau one can view the Five Range Panorama. The five ranges include the Gore Range, Sawatch Range, Collegiate Peaks, Elk Mountains, and the Flattops.



South of Hanging Lake

Communities: There are three communities within this subsection: Glenwood Springs and Carbonate in Garfield County and Buford in Rio Blanco County. These communities are quite different. Buford is a small crossroads with a few buildings and businesses. Glenwood Springs, however, is the county seat for Garfield County and is a destination recreation area. The world famous Hot Springs Pool, located in Glenwood Springs, has been the center of the town since the 1860s. The area continues to depend on tourism as an economic staple. Carbonate contains remnants of its historic past combined with modern recreational cabins.

Man-made Elements: Man-made elements include campgrounds, timber harvesting, and cattle grazing. Also present are Deep Creek Overlook, Trappers Lake Lodge, Budes White River Resort, White Owl Visitor Center, special use cabins, and outfitter camps.

Transportation: Travelways include Coffee Pot Road FS 600, Buford/Newcastle Road 244, Interstate 70, and Highway 8. This area receives 10,000 AADPVT to Eagle. Other forest service roads include FS 10, 245, 832, 8, 250-Yellow Jacket Pass.

Level of Disturbance: Past and present activities on the landscape include timber and range management. Fire and insects play a natural role in the ecological process of the subsection. Approximately 175,000 acres is designated as Flat Tops Wilderness.

Level of Remoteness/Solitude: This subsection contains a portion of the Flat Tops Wilderness. The rest of the subsection is in a roaded natural-primitive area.



South Fork of the White River Meadows

Primary Recreation Activities: Hunting and outfitter guide operations are prevailing activities in this area. Other popular activities include driving ATVs, camping, fishing, and driving for pleasure. Snowmobiling is a popular winter activity.

Cultural Landscape Themes: More than anywhere else on the White River National Forest, the human influence is seen as blending into and with the land rather than noticeably altering it.

Prehistoric and historic Ute usage of this subsection for resource procurement did not visually affect viewsheds. Campsites were mobile and once teepees were moved, their presence left little evidence. The Ute Trail from Dotsero to the Old White River Agency, a main thoroughfare across the Flat Tops, has likewise been claimed by the natural landscape, although portions of it have been discovered along ridges and at main junctures.

The power of this natural landscape to inspire respect for leaving it as is greatly affected landscape architect Arthur H. Carhart. When sent to Trappers Lake in 1919 to plot several hundred home sites and a road around the lake, he opposed any “improvement where natural landscape would suffer.” As a result, he is credited with being the father of the wilderness concept, and Trappers Lake still lies within the wilderness. What few developments exist there, outside of the wilderness, blend well into the setting. The few concessionaire cabins present and the Division of Wildlife cabin are rustic.

All Forest Service developments (campgrounds, overlooks, and administration sites) and cow camp cabins are of the typical “rustic” architecture that the public now associates with “belonging” to the forest setting. This is also true of the few Civilian Conservation Corps (CCC) era features, such as the Hanging Lake Trail, in the sense that they have been designed to blend into the natural landscape as much as possible. The Buford to New Castle Road across the Flat Tops, built from 1926-31, is a truly scenic route as well as a cultural artifact. It also does not seem to detract from this sense of wonder the Flat Tops have sustained, due in small part to the cultural landscape blending so well into the natural one.

Other features include the Ute Trail, Ranger Station 1 at Deep Lake, Teddy Roosevelt Campsite, Carbonate town site, the prisoner of war camp on the Clinetops, the Transfer Springs Ranger Station, and the historic Gray Eagle Gold Mine.

Wildlife: The White River Plateau is dominated by alpine, subalpine, montane, and lower montane life zones. These life zones and associated wildlife are described as follows:

The alpine zone is described as a bare, rocky region covered with snow for the greater part of the year, approximately 11,000 feet to 14,000+ feet. This subsection is home to the largest migratory elk and deer herds in the United States. The following are residents or were historically found in this zone: wolverine – very rare and status unknown, grizzly bear – extirpated, coyote, marmot, pika, and pocket gopher. Birds that characterize the alpine zone include the white-tailed ptarmigan, pipit – a summer migrant, and rosy finch.

The sub-alpine zone is described as the upper spruce/fir zone up to timberline, where the trees begin to be dwarfed. The following wildlife species are residents or were historically found in this zone: many of the above species plus pine marten, lynx – status unknown, pine grosbeak, brown creeper, and golden-crowned kinglet.

Extensive forest belts of aspens, lodgepole pines, characterize the montane life zone and the lower part of the Engelmann spruce belt. This zone also has mixed aspen and Engelmann spruce or grassy parks and aspen intermingled. Wildlife species that are residents or were historically found in this zone: snowshoe hare, red squirrel, yellow bellied marmot, Colorado pocket gopher, black bear, marten, gray jay, olive-sided flycatcher, blue grouse, Lincoln sparrow, and garter snakes.

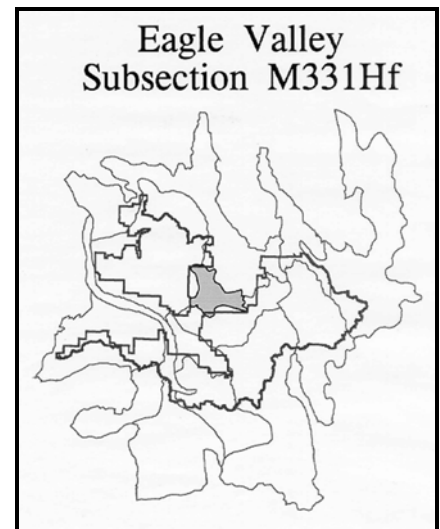
The semi-arid or lower montane zone is an intermediate between the upper Sonoran and the Boreal-montane zones, with the lower limit marked by an approach to desert condition and the upper limits overlapping the boreal zone characteristics. Species that are characteristic, but are not restricted to this life zone are: cottontail, sage grouse, saw-whet owl, sharp-shinned hawk, green-tailed towhee, white-tailed swift, MacGillivray's warbler, and Virginia's warbler.

Fish species common to this area include the speckled dace, mottled sculpin, bluehead sucker, roundtail chub, mountain whitefish, flannel mouth sucker, and rare Colorado River cutthroat trout.

M331Hf – Eagle Valley

The forces of the Eagle and Colorado Rivers collectively with their dense network of tributary drainages have altered the broad Eagle Valley subsection. Terraces are common land features close to the rivers. Rolling hills, low relief mountains covered with pinon pine and juniper, and sagebrush characterizes this subsection. Interstate 70 dissects the subsection. Ranching, mining, and timbering are lifestyles for portions of the communities of Gypsum, Eagle, and Dotsero. Many commute to resort areas. A very small percentage of forestland lies within the subsection. The Bureau of Land

Management (BLM) has jurisdiction over most of the land, and the rest is owned privately. This subsection comprises 153,112 acres of the Colorado Rockies, of which only 4 percent is located within the White River National Forest.





Eagle Valley

Landform/Geomorphology: This subsection is composed of strongly dissected landforms that include low relief mountains, hills, and narrow valleys. Meandering valley bottoms flanked by low relief mountains with fan and terrace complexes occur along the Eagle and Colorado River drainages. A distinct landform feature is the frequent presence of gypsum rock outcrops. Geomorphic processes are dominantly fluvial and mass wasting. Stratigraphy/lithology consist of Paleozoic sedimentaries including the Eagle Valley Formation and evaporites. Also found are siltstones, sandstones, and carbonate rocks.

Soil Taxa: Gypsiorthids, Torriorthents, and Calciorthids support pinon pine-juniper woodlands. Fluvaquents and Endoaquolls occur adjacent to drainages, and Haploborolls and Argilborolls are associated with higher elevation grasslands and shrublands.

Potential Natural Vegetation: Pinon pine-juniper woodlands dominate this subsection. Shrublands and grasslands include sagebrush, bitterbrush, serviceberry, mountain mahogany, and Indian ricegrass.

Climatic Factors: Elevation of the subsection ranges from 6,400 to 7,400 feet. Precipitation ranges from 13 to 16 inches annually.

Waterforms: Intermittent and ephemeral drainages are present. Also present are the Colorado and Eagle Rivers and several smaller streams, including Brush Creek, Sweetwater, Alkali, and Gypsum Creeks.

Special or Distinctive features: Little Sugarloaf Mountain is a dominant landform. Horse Lake and the Eagle River are the dominant water features.

Communities: The three Eagle County communities of Dotsero, Eagle, and Gypsum are located within this subsection. These three areas have historic bases in resource extraction. Some of these activities still exist today. Dotsero supports a timber operation; Gypsum supports a Gypsum mine and sheet rock plant; and Eagle supports some ranching and agriculture. The dominant economic force in Eagle County as a whole, however, is service industries. These industries provide the tourism economy with hotels and lodging, restaurants, recreation services, and support services. While there are not any resorts within these towns, they do provide employees and supporting businesses to the resort areas found in Eagle county and other nearby areas.

These towns are all characterized by some degree of urbanization. The town of Eagle, the county seat for Eagle County, has experienced the most significant growth of the three towns mentioned

here. The Eagle county airport, located between Gypsum and Eagle, recently had a physical expansion and continues to expand operations. It serves the Vail ski areas as well as the other businesses in the area. Its growth reflects the growth and expansion of the county.

Man-made Elements: Sweetwater Lake Campground and Trailhead are located within this subsection.

Transportation: FS road 430 is located at the south end of the subsection.

Level of Disturbance: Disturbances consist of fire, agriculture, and urban development.

Level of Remoteness/Solitude: Moderate-roaded natural experiences can be expected.

Primary Recreation Activities: This is a popular area for hunting, snowmobiling, ATV driving, outfitter guide operations, wildlife viewing, camping, and fishing.

Cultural Landscape Themes: Transportation has been a dominant cultural landscape theme since prehistoric times, when routes were first established over mountain passes into the valley and from the valley onto the Flat Tops. Many Ute Indian trails, such as the main one from the confluence of the Eagle River with the Colorado at Dotsero, later became wagon roads. Because of this, few Ute features survived into modern times, as have few wagon road segments because they in turn were overlaid by more modern, usually all-weather or asphalt, roads. Both the Ute Trail mentioned above and Trail Gulch/Road Gulch from Gypsum to the Colorado River are exceptions and both are noticeable on the ground and well preserved. Also, there are a few segments of stage roads, like the one from Eagle to Squaw Creek, that are evident on the landscape. Only one main railroad route along the river traversed the area, that of the still used Rio Grande and Western Railroad. Likewise, only one major four-lane highway allows residents to leave the valley, that being Interstate 70. Its influence has been dealt with in another section. One of the items transported out of the valley was the stone for the Brown Palace Hotel in Denver, which came from a quarry on the south slope of Castle Peak and was moved down a steep incline to the valley floor by wagons with cable and a huge pulley on top. The set-up with its expertly dry laid masonry is still visible from Interstate 70. The only other mining evident today is for gypsum a few miles north of the town of Gypsum. There, strip mining for the wallboard plant in Gypsum is creating its own cultural landscape.

Farming and ranching have been minimal along the Eagle River Valley, but up both Gypsum Creek and Brush Creek, north of Eagle, the rural landscape is one of open vistas of fields set against a backdrop of mountains. These fields, mostly of alfalfa grown for cattle, are steadily being developed into residential homes. Few of the early homesteads, such as the Slaughter Homestead and the old cabin up the top of Trail Gulch where it turns into Road Gulch, are left as evidence of the agrarian landscape heritage. Both of these have survived only because they are on public land, not subject to urban development. Even the towns of Gypsum and Eagle feel this urban pressure and soon will no longer reflect the quiet, small town landscape.

Wildlife: The Eagle Valley is dominated by montane and lower montane life zones. These life zones and associated wildlife are described as follows:

Extensive forest belts of aspen and lodgepole pine characterize the montane life zone and the lower part of the Engelmann spruce belt. This zone also has mixed aspen and Engelmann spruce or grassy

parks and aspen intermingled. Wildlife species that are residents or were historically found in this zone: snowshoe hare, red squirrel, yellow bellied marmot, Colorado pocket gopher, black bear, marten, gray jay, olive-sided flycatcher, blue grouse, Lincoln sparrow, and garter snakes.

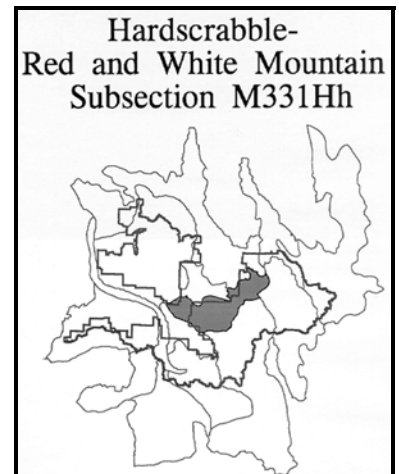
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Fish species found in this subsection include mottled sculpin, and bluehead sucker. High populations of roundtail chub, mountain whitefish, and the flannel mouth sucker occur around hot springs. Rare Colorado River cutthroat trout is also found in this area.

M331Hh – Hardscrabble-Red and White Mountain

This subsection comprises over 368,000 acres of the Colorado Rockies, of which 75 percent lies within the White River National Forest. This subsection is centrally located central on the White River National Forest; part of the subsection is on non-Forest lands. The area extends south from Piney Lake through Sylvan Lake State Park down to Ruedi Reservoir and ends near Woody Creek. On the southeast side dominant features include the Seven Castles area with its steep rock formations and the Fryingpan River, known for its superior quality fishing. Aspen forest and a variety of shrub species provide contrast against the coniferous forests. The mix of vegetation creates a colorful display in the fall. Lakes, reservoirs, and streams are popular recreation destinations as well as Arrowhead and Beaver Creek ski areas.

Hardscrabble Area



Landform/Geomorphology:
The general

landform is characterized by smooth mountains, and foothills are composed of Paleozoic

sedimentaries. Geomorphic processes include glaciation and periglaciation with fluvial and mass wasting influences. Stratigraphy/lithology is composed of Paleozoic siltstones, sandstones, conglomerate, and mudstones, some exposed Tertiary intrusives composed of quartz monzonite, and granodiorite porphyries.

Soil taxa: Cryoboralfs, Cryochrepts, and Eutroboralfs support coniferous forests. Cryoborolls are associated with aspen forests and grasslands. Haploborolls and Ustochrepts are associated with shrublands at lower elevations.

Potential Natural Vegetation: Englemann spruce and subalpine fir occur in higher elevations, and lodgepole pine and blue spruce at mid elevations to treeline. Alpine meadowlands are found above treeline. Aspen shrub steppe is common on lower slopes.

Climatic Factors: Elevation of the subsection ranges from 8,500 to 12,000 feet. Precipitation ranges from 25 to 50 inches annually.

Waterforms: Waterforms include Ruedi Reservoir, Fryingpan River, Piney Lake, and Sylvan Lake.

Special or Distinctive Features: Features include Red Table Mountain, Basalt Mountain, Ruedi Reservoir, Seven Castles, Rocky Fork Canyon, Groaning Cave, Sylvan Lake, Piney Lake, Fulford Cave, Yeoman Park including beaver activity, Polar Star, and other mines.

Red Table Mountain

Communities: The communities of Avon and Edwards along with Beaver Creek and Arrowhead are within this subsection. Avon and Edwards provide service workers to the resorts and has many second homes and rental properties. Urbanization is occurring right up to the forest boundary in many locations.



There are other areas in this subsection with residential or agricultural developments.

Man-made Elements: Man-made elements include backcountry huts, timber sales, mines, Woody Creek Road, several trails, and Red Mountain Communication Sites (upper/lower). Campgrounds include Mollie B, Little Mattie, and Little Maud. The Rocky Fork picnic area is also present. Arrowhead and Beaver Creek ski areas are primary features. Piney Lake Lodge is a rustic development at one of the portals for the Eagles Nest Wilderness.

Transportation: Forest roads include Red Table Mountain Road 514, Gypsum Creek Road 412, Brush Creek Road 400/415, and Fryingpan River Road 105.

Level of Disturbance: Historic mining districts, livestock grazing, timber harvesting, communication sites, and natural processes of fire have all had a role in shaping the existing patterns in the landscape character. The natural character of the landscape has been heavily altered by the ski industry.

Primary Recreation Activities: Recreation activities occur year long in the hardscrabble area. The area is heavily used for hunting, skiing, sightseeing, camping, and fishing. Other activities that are becoming more popular include bicycling, snowmobiling, and boating.

Cultural Landscape Themes: Traveling west to east in this division, you move from BLM (BLM) and private land in Spring Valley to NFS lands. The private land is being rapidly developed into small parcels with scattered home sites as well as large Planned Unit Developments (PUDs). This is changing the open lands of such homestead families as the Hopkins to the wildland/urban interface. One relic of by-gone days is a one-room schoolhouse near Coulter Creek on the road to Cottonwood Pass.

Within the NFS lands, Yeoman Park is open parkland between steep forested slopes that have been logged in the past and are still being logged. Gone are the Ranger Station and the CCC camp, but the old town of Fulford still exists with a few committed residents hanging on through the winter. The past logging landscapes are exhibited in cabins and logging camp remains set among timber roads, some of which are still used today.

In the southern section of this area lies Ruedi Reservoir, creating its own modern landscape of water recreation and all that goes with it on the edge of the reservoir, with campgrounds and boat launching areas. Between the reservoir and Basalt lie long segments of the abandoned railroad grade of the Colorado Midland, on its way toward the tunnel at Haggerman Pass.

The modern ski area landscape with its urban villages of Beaver Creek, Bachelor Gulch, Cache Creek, Cordillera, and Squaw Creek produce a rather exclusive community. Spreading both up and down the Eagle River from here are more condominiums, apartments, and other amenities of urban life linked to the four-season resorts. Growth seems to spread in all directions, even to the tops of previously unoccupied mountains, as evidenced by the massive homes up and to the east of Squaw Creek.

The current cultural landscape is a mixture of the old and the new. Ranching and resort urbanization are occurring in close proximity to each other. This causes conflicts over both land use and lifestyles.

Wildlife: The Hardscrabble-Red and White Mountain are dominated by subalpine and montane life zones. These life zones and associated wildlife are described as follows:

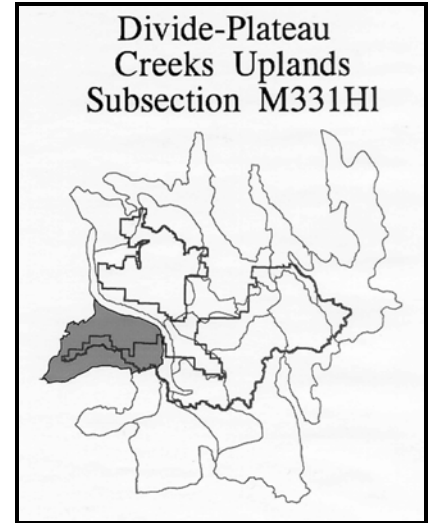
The sub-alpine zone is described as the upper spruce/fir zone up to timberline, where the trees begin to be dwarfed. The following wildlife species are residents or were historically found in this zone: many of the species common to the alpine zone, plus, pine marten, lynx – status unknown, pine grosbeak, brown creeper, and golden-crowned kinglet.

Extensive forest belts of aspen and lodgepole pine characterize the montane life zone and the lower part of the Engelmann spruce belt. This zone also has mixed aspen and Engelmann spruce or grassy parks and aspen intermingled. Wildlife species that are residents or were historically found in this zone: snowshoe hare, red squirrel, yellow bellied marmot, Colorado pocket gopher, black bear, marten, gray jay, olive-sided flycatcher, blue grouse, Lincoln sparrow, and garter snakes.

Fish species common to this area include mottled sculpin, bluehead sucker, and rare Colorado River cutthroat trout. Higher populations of roundtail chub, mountain whitefish, and flannel mouth sucker are found near hot springs areas.

M331Hi – Divide- Plateau Creeks Uplands

This subsection comprises over 702,000 acres, 23 percent of this area is on White River National Forest lands. This subsection occurs on the western most side of the White River National Forest; the majority of the subsection is on non-Forest land. Broad valleys and plateaus and benches cut by the Colorado River generally characterize the subsection. The vegetative patterns on the forest are a mix of coniferous forests interspersed with grassland meadows. Extensive pinon pine-juniper woodlands, sagebrush, and Gambel oak stands characterize lands outside the Forest boundary. Looking from the vista point on top of Muddy Pass to the east the terrain is comprised of rolling hills and broad valleys with gentle to moderate slopes. There is not much vegetative variety, except for the riparian zones in some of the valleys. East and West Divide Creek drainages provide a transition from the valley bottom to the Open Park and meadowlands near Haystack Gate. Color contrast between the shrub species and coniferous forests provides some visual variety.



Landform/Geomorphology: This subsection is composed of dissected hills, low relief mountains, and plateau lands along the eastern margin of the Colorado Plateau uplift. The landforms have been shaped by fluvial slope and mass wasting processes. The stratigraphy/lithology predominately include upper Cretaceous interbedded shale, siltstone, and sandstone.

Soil Taxa: Soil includes Cryoborolls associated with aspen forests, and Torriorthents and Ustochrepts are associated with mid-low elevation shrublands. Cryoboralfs and Eutroboralfs are associated with coniferous forests.

Potential Natural Vegetation: Montane and lower montane uplands include aspen, Douglas-fir, Ponderosa pine forests, and pinon pine-juniper woodlands. Shrublands and grasslands include Gambel oak, serviceberry, bitterbrush, western wheatgrass, and mountain big sagebrush. Subalpine forests include subalpine fir and Englemann spruce.

Climatic Factors: Elevation of the subsection ranges from 5,000 to 10,500 feet. Precipitation ranges from 15 to 35+ inches annually.

Waterforms: Dominant streams are East and West Divide Creeks, Plateau Creek, and Muddy Creek. Other water features include the Colorado River, and Battlement and Alsbury Reservoirs. Few lakes are present in this subsection.

Special or Distinctive Features: Distinctive landforms include Housetop Mountain, Horse Mountain, Mamm Peak, Flag Pole Mountain, Twin Peaks, and Fourmile Park. The Battlement and

Alsburys Reservoirs are the main water features. Lower elevations provide key winter range for big game.

Communities: Many small communities occur in this subsection, mostly in Garfield County. Within Garfield County the towns of Silt, Rifle, Battlement Mesa, and Parachute occur within the subsection. The towns of Colbran and DeBeque, in Mesa County, also occur in the subsection. None of these communities have an urban interface with the White River National Forest. They do have residents who are dependent upon a variety of activities occurring on the forest for their economic livelihood. These activities include natural gas development, timber harvesting, hunting, outfitter guiding, ranching, and resort based activities. Battlement Mesa is a retirement community and provides an example of how towns in this general area can have an economic base other than tourism.

Man-made Elements: Facilities associated with natural gas development including pipelines. Urban developments include communication sites and the Sunlight ski area. Timber harvesting and cattle grazing are also evident.

Transportation: Travelways include East and West Divide Creek roads, Sunlight-Powderhorn Snowmobile Trail, Four Mile Road, Interstate 70, and FS road 270 out of Colbran.

Level of Disturbance: Disturbance consists of fire, timber, and range management. Some oil shale mining has occurred. Oil and gas exploration is ongoing. There are several gas pipelines, storage facilities, and other facilities associated with natural gas development. Other developments include electronic sites, ditches, and numerous inholdings.

Level of Remoteness/Solitude: Roaded natural experiences can be expected in this area.

Primary Recreation Activities: A wide range of recreation activities take place in this area including hunting, dispersed camping, snowmobiling, and cross-country and alpine skiing.

Cultural Landscape Themes: This subsection will be viewed as you travel from Sunlight, some nine miles southeast of Glenwood Springs, to the west along the Interstate 70 corridor in the northern portion of this subsection. At DeBeque you turn south and head to Colbran, then back east on the backside of the Battlements along Divide Creek on into Silt.

Ski Sunlight, now called “Sunlight,” has a distinctive feel of the early era of ski areas. The name change is due to the four-season nature of resort use. It has a landscape of smaller runs, less fanfare, and local valley orientation.

If you travel back to Glenwood Springs and then west along Interstate 70 you will see small scattered working farms and ranches with the same open lands that have been mentioned elsewhere. This mosaic landscape pattern includes ditches used to transport water for the irrigated fields. Older farmhouses have huge trees which surround them and impart a sense of place. This is gradually replaced and grades into a more wildland/urban setting to the modern urban settlement of Battlement Mesa. As this corridor becomes more developed, as it already is around the town of Silt on Silt Mesa, these rural farms and ranches will slowly disappear. These future urban residents placed in a formerly rural landscape will demand more access to the national forest in their back yard and, along with this, will demand more recreational opportunities.

On top of Battlement Mesa lies a set of reservoirs that in themselves create a unique cultural landscape. These earthen dams were built at the turn of the century with horses, mules, and earth moving plow-like fresnos. Early pioneers built the dams to supply water necessary for their survival.

As you turn south toward Colbran on the DeBeque cutoff, you encounter a natural landscape of scoured-out badlands. Once Plateau Creek is reached, a distinctly rural character is again apparent as small farms and ranches are scattered along the creek with small villages, such as Colbran, seemingly unaffected by all the development mentioned elsewhere. As the county road from Colbran to Silt turns into dirt there is little evidence of human presence other than the road, with the exception of old contoured terracing used to prevent erosion and improve grazing lands. Then as you head down into Divide Creek you again find the rural setting of farms and ranches in mosaic patterns along the major creeks. Turning east on West Divide will bring you to the well-preserved Cayton Guard Station. This was the second ranger station built in the United States. It reflects a rapidly disappearing landscape of isolated ranger quarters, made of wood, in a forest setting. It still feels remote and gives the impression that it is a long way from anywhere.

To the east of Divide Creek lies a natural gas field with well pads, pipelines, and other features. These features provide stark relief, in the foreground, against the otherwise rural woodlands natural landscape.

Due east along Divide Creek at least two one room schoolhouses can be found. The existence of these schoolhouses symbolizes a critical turning point in Western Slope history, for it represents the time that education arrived to these Colorado frontier communities, communities that seemed otherwise isolated from the rest of the world. These now unneeded structures are not necessarily unwanted and should be preserved intact and in context of the rural landscape of which they are a part. So it is with a few of the cow camps that exist in this region of the country, which are perhaps more threatened by the sheer necessity of ranchers to change with the times and provide what few range riders there are left with better quarters over time.

Wildlife: The Divide-Plateau Creek areas are dominated by subalpine, montane, and lower montane life zones. These life zones and associated wildlife are described as follows:

The sub-alpine zone is described as the upper spruce/fir zone up to timberline, where the trees begin to be dwarfed. The following wildlife species are residents or were historically found in this zone: many of the species common to the sub-alpine zone, plus pine marten, lynx – status unknown, pine grosbeak, brown creeper, and golden-crowned kinglet.

The montane life zone is characterized by extensive forest belts of aspen and the lower part of the Engelmann spruce belt. This zone also has mixed aspen and Engelmann spruce or grassy parks and aspen intermingled. Wildlife species that are residents or were historically found in this zone: snowshoe hare, red squirrel, yellow bellied marmot, Colorado pocket gopher, black bear, marten, gray jay, olive-sided flycatcher, blue grouse, Lincoln sparrow, and garter snakes.

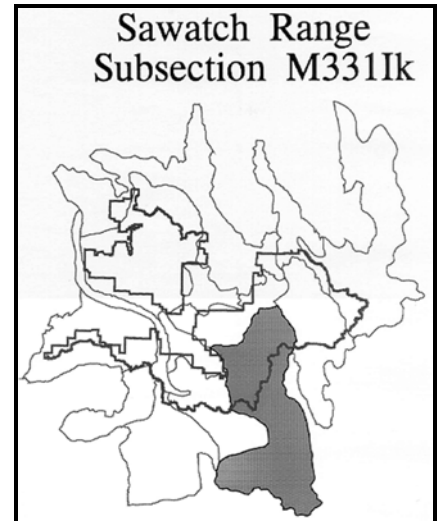
The semi-arid or lower montane zone is an intermediate between the upper Sonoran and the Boreal-montane zones, with the lower limit marked by an approach to desert condition and the upper limits overlapping the boreal zone characteristics. Species that are characteristic, but are not restricted to

this life zone are: cottontail, sage grouse, saw-whet owl, sharp-shinned hawk, green-tailed towhee, white-tailed swift, MacGillivray's warbler, and Virginia's warbler. On the White River National Forest there is very little of this life zone, and it is found on the extreme western end of the Forest near Horsethief Mountain. It is characterized by wildlife species such as the collared lizard and turkey vulture, and contains the sensitive plant DeBeque Phacelia.

Fish species common to the area include mottled and bluehead sculpin, roundtail chub, mountain whitefish, flannel mouth sucker, speckled dace, and rare Colorado River cutthroat trout. The Colorado squawfish and razorback sucker are rarely found in the Colorado River; these species are being stocked in an attempt to recover them.

M331k – Sawatch Range

This subsection comprises 1,219,309 acres of the Colorado Rockies, and 33 percent of White River National Forest land. The subsection occurs in the southeast portion of the White River National Forest and continues south to the San Louis Valley. This area contains some of the most spectacular scenery of the Rocky Mountains. The Collegiate Peaks Wilderness and Independence Pass are found on the south side of the subsection. As you head north the subsection encompasses the Hunter Fryingpan and Holy Cross Wilderness areas. Scenic vistas of the subsection can be found from the top of Beaver Creek and Vail ski areas, along with the Mt. of the Holy Cross overlook. The terrain is quite rugged with steep valleys, cliffs, and talus slopes typical of the Independence Pass area. There are a high variety of vegetative patterns. Riparian stringers along the creeks provide a contrast to the Englemann spruce, blue spruce, and lodgepole that are interspersed with aspen. During the settlement of the western states, the Mount of the Holy Cross was a destination point of religious pilgrims in the early 1900s.



Treasure Vault Lake Area

Landform/Geomorphology: This subsection is composed of high relief mountains shaped by erosional processes of glaciation and periglaciation along with secondary fluvial and colluvial deposition. Landforms include scoured bowl-like cirque headwalls and floors, glaciated ridgetops and mountainside slopes, talus slopes, couloirs, and U-shaped valleys. The stratigraphy/lithology include the exposed core of the uplifted mountain range composed predominately of Precambrian igneous and metamorphic rocks, including granites and gneisses. Some exposed Tertiary intrusive rocks are also present.

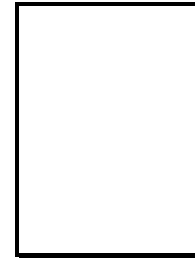
Soil Taxa: Cryochrepts and Cryoboralfs are associated with coniferous forests. Cryumbrepts and Cryorthents are associated with lands above treeline. Cryoborolls are associated with aspen forests and subalpine grasslands.

Potential Natural Vegetation: Species include subalpine fir, Engelmann spruce, whortleberries, and elk sedge to treeline. Above treeline a mix of herbaceous-dominated alpine meadows are

interspersed with scree, tundra, and snowfields. At lowest elevations aspen and lodgepole pine forests are interspersed with mountain shrublands.

Climatic Factors: Elevation of the subsection ranges from 8,000 to 14,000+ feet. Precipitation ranges from 25 to 50+ inches annually.

Waterforms: Perennial streams are common. Major drainages within this subsection include the Roaring Fork, Eagle River, and Fryingpan Rivers. Isolated high elevation lakes are present such as Petroleum, Anderson, Warren, Sellar, Digmar, Weller, and Lost Man. Reservoirs within this subsection include Grizzly, Homestake, Lostman, and Ruedi. Distinct water features include the Grottos, Devils Punchbowl, Woods Lake, and Crooked Creek Reservoir. The Conundrum hot springs is also in this subsection.



Devils Punchbowl

Special or Distinctive Features: Water features include Chapman Reservoir, Chapman Lake, Woods Lake, and the Fryingpan River, which is a nationally known high quality trout fishery. Dominant landforms include Mt. of the Holy Cross, Mt. Nast, Sellar Meadow, Hell Gate, the Grottos area, Notch Mountain, Hunter Creek Valley, and Climbing Rock. Significant mountain passes are Hagerman Pass, Continental Divide, and Independence Pass. Several wilderness areas comprise much of the land base of this subsection. The wilderness areas are Collegiate Peaks, Holy Cross, and Hunter Fryingpan. Other features include Lincoln Creek Road, Lenado, and the backcountry huts of McNamara and Margy's. The Coke Oven State Wildlife area is also in this subsection. There is an outstanding view from Estlin Hut.

View from the top of Vail ski area. Mount of the Holy Cross is the tallest peak in the background.



Communities: This subsection contains the town of Aspen, in Pitkin County, and the town of Leadville, in Lake County, as well as many abandoned mining towns and settlements. Aspen and Leadville both originated as mining towns. Aspen today is a resort area with few ties to its mining days. There is more mining activity within the vicinity of Leadville, but it has also entered the tourism trade. The town of Minturn is located in Eagle County. Service and trade industries drive the economy of this county.

Man-made Elements: Campgrounds include Hornsilver, Lostman, Weller, Dearhammer, Tigiwon, Chapman, Elk Wallow, Blodgett, Camp Hale, Lincoln Gulch, Portal, and the Freeman Picnic area. The ghost towns of Independence Townsite and Ruby are found at the southern end of the subsection. Aspen Mountain ski area is also located in the subsection.

Transportation: Forest development roads include: FS 506, FS 105, FS 501, and FS 705. Highway 82 runs through the southern part of this subsection.

Level of Disturbance: Historic mining districts are present. The Sawatch Range is a part of a larger regional mineralization belt that occurs in western Colorado. Timber harvesting and livestock grazing have also altered the landscape character.

Level of Remoteness/Solitude: There is a high level of solitude in the wilderness areas with the exception of heavily used popular wilderness trails, where solitude is low. Portions of three wildernesses fall in this subsection, including most of the Holy Cross, all of the Collegiate Peaks, and all of the Hunter-Frypan Wildernesses.

Primary Recreation Activities: A wide variety of activities occur in this subsection. Activities include skiing, snowmobiling, hiking, fishing, camping, backpacking, hunting, and mountain biking. Scenery viewing is a popular activity. Spectacular mountain vistas of the various wilderness areas occur in this subsection.

Cultural Landscape Themes: Proceeding from north to south in this division, there are two abandoned towns related to mining. They retain their original setting in context of expected mining “ghost towns.” One abandoned town, Holy Cross City, has almost disappeared off the face of the earth. Its ruins lie deep within and high upon the steep mountains just south of Holy Cross Mountain. The old wagon road has been converted to a four-wheel driver’s challenge. Dating to the same period as Leadville, Holy Cross City exudes a feeling of what a ghost town should look like. Further down the mountain and along Homestake Creek, little is left of Gold Park’s original man-made landscape. You would be hard pressed to find where it was located.

Contrasted with these older places is the more modern abandoned town of Gilman. Empty houses glare at passersby on their way between Minturn and Leadville. Perched as they are rather precariously in the steep confines of the upper Eagle River valley, they seem to be waiting for someone to move back into them. The area is so steep that the mill was actually located underground.

Between Holy Cross City and Gilman are two CCC structures that still retain their rustic outdoor context within the setting of these high harsh mountains. Notch Mountain Shelter, exposed to the elements on a steep trail to Holy Cross Mountain, does still offer shelter to the icy winds that blow across the bare rock. Tigiwon Community House fits into the forested evergreens, and offers a view across the slopes toward Vail and on up toward the headwaters of the upper Eagle River valley.

Camp Hale, America’s only World War II high altitude training facility for mountain warfare, lies in one of the few open areas within the otherwise narrow confines of the Eagle River’s upper reaches. Though little physical evidence remains of the time when thousands of troops lived and trained here, this National Register of Historic Places site gives a glimpse of what it must have been like to be a soldier. Altered, filled in, and rechanneled, the Eagle River now runs its straight course through the camp with its field house ruins, rock climbing area, shooting range, and ski slope which is now being overtaken by new evergreen trees. The influence this place had on the fledgling ski industry after many of the survivors of the Tenth Mountain Division returned to Colorado is still felt today. South of Camp Hale lies Ski Cooper; it is one of the oldest ski resorts in the United States, founded by the Tenth Mountain Division.

Before climbing up Tennessee Pass, look to the right, and you will see an open area that seems natural appearing except for the tracks of the Rio Grande and Western Railroad. If you stopped and looked closer you could see evidence of charcoal ovens, which were part of the Mitchell Creek siding dating to the times of the early railroad days.

Some buildings in the small community of Thomasville are noticeably modern. The feel of its rural setting stays with you on up to Norrie, where its old Ranger Station is still intact. The Colorado Midland Railroad used to run up the Fryingpan River. Still present in the form of an abandoned grade, it runs back toward Leadville. At Haggerman Pass it went through the Continental Divide in a now closed tunnel. You can almost hear the locomotives and smell the burning coal if you stand in the ruins of Sellar near its abandoned ovens and imagine what this high, lonesome valley was like in the old days of the iron horse.

Back down the valley between the high mountain ridges and Ruedi Reservoir is Chapman Dam, which blends in well with the surrounding campground. On the northern slopes of the mountains above Chapman logging activity has modified the landscape. Looking at it today, however, you would never guess that an aerial tramway made a connection on top near Kobey Park from which logs were brought down to the Fryingpan River for transportation. In a few valleys south the old town of Lenado contains less than a dozen buildings.

Surrounding the modern ski town of Aspen are many signs of old mines such as the Smuggler, now a Superfund site, and the Mollie Gibson. All this area was once served by the Independence Toll Road up out of Aspen to Independence Pass and beyond, eventually on to Leadville. Only segments of the original wagon, stage, and freighter road exist today. They portray the feel of that era in which this small ribbon of narrow road was all there was of civilization, “in the wilderness,” that existed at that time. Every such attempt to urbanize the Rocky Mountains, placed in this context, can be better appreciated in our rear view mirror vision of the past. Lending to this same understanding of the late 1880s mining landscapes is Independence Townsite, on the National Register of Historic Places; it lies only a few miles from the top of Independence Pass. Though both it and the old Townsite of Ruby, off to the west of Independence, have fallen to the ravages of time and high altitude weather, they preserve a patch of fabric in the quilt of Colorado’s mining history. Development around or near them would detract from the visual setting in which they rest, as if frozen in time.



Independence Townsite

Only with such an understanding can such passes as Taylor, off to the south from Independence, reveal their significance. Hordes of adventurers traveled over these passes in search of wealth

thought to lie hidden underneath the very rocks they trod over. These passes remain today mostly unaffected.

Wildlife: The Sawatch Range is dominated by alpine, subalpine, and montane life zones. These life zones and associated wildlife are described as follows: The alpine zone is described as a bare, rocky region covered with snow for the greater part of the year, approximately 11,000 feet to 14,000+ feet. Non-native mountain goat are restricted to this zone, and the following are residents or were historically found in this zone: wolverine – very rare and status unknown, grizzly bear – extirpated, coyote, marmot, pika, and pocket gopher. Birds that characterize the alpine zone include the white-tailed ptarmigan, pipit – a summer migrant, and rosy finch.

The sub-alpine zone is described as the upper spruce/fir zone up to timberline, where the trees begin to be dwarfed. The following wildlife species are residents or were historically found in this zone: many of the above species plus, pine marten, lynx – status unknown, pine grosbeak, brown creeper, and golden-crowned kinglet.

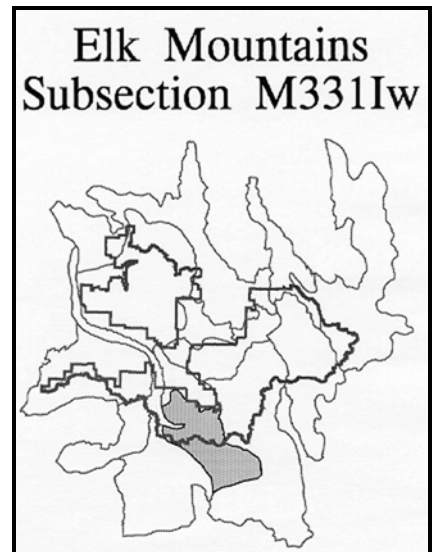
Extensive forest belts of aspen and lodgepole pine characterize the montane life zone and the lower part of the Engelmann spruce belt. This zone also has mixed aspen and Engelmann spruce or grassy parks and aspen intermingled. Wildlife species that are residents or were historically found in this zone: snowshoe hare, red squirrel, yellow bellied marmot, Colorado pocket gopher, black bear, marten, gray jay, olive-sided flycatcher, blue grouse, Lincoln sparrow, and garter snakes.

Fish species common in this subsection include speckled dace, mottled sculpin, bluehead sucker, rare Colorado River cutthroat trout, and roundtail chub. In the lowest reaches of the subsection mountain whitefish are present.

M331Iw – Elk Mountains

This subsection comprises 474,378 acres of the Colorado Rockies, and 45 percent of which is located on White River National Forest land. Nearly half of this subsection extends across the southern-most portion of the White River National Forest. Along the Highway 82 corridor you will find evidence of historical mining, along with two of the nation's major skiing destinations, Aspen Mountain and Aspen Highlands. As you are traveling you will reach several points offering spectacular mountain vistas, such as the Maroon Creek corridor. In autumn the contrasts of colors and textures throughout the Elk Mountains provides a spectacular display of scenery.

Landform/Geomorphology: This subsection is composed of distinctive high relief mountains. Common landforms include scoured bowl-like cirque headwalls and floors, glaciated ridgetops and summits, talus and scree slopes, couloirs, and U-shaped valleys. The stratigraphy/lithology include uplifted mountains composed of Paleozoic sedimentaries with some exposed Tertiary intrusives.



Soil Taxa: Cryochrepts and Cryoboralfs are associated with coniferous forests. Cryoborolls support aspen forests and subalpine grasslands. Cryumbrepts and Cryorthents are associated with lands above treeline.

Potential Natural Vegetation: Coniferous forests include subalpine fir, Engelmann spruce, whortleberries, and elk sedge to treeline. Deciduous forests include aspen with grass/forb understories. Above treeline a mix of herbaceous dominated meadows, and turflands occur.

Climatic Factors: Elevation of the subsection ranges from 8,000 to 14,000+ feet. Precipitation ranges from 30 to 45+ inches annually.

Waterforms: Perennial streams are common, and isolated high elevation lakes are present. Lakes include but are not limited to American Lake, Cathedral Lake, Maroon Lake, Moon Lake, Snowmass Lake, Willow Lake, Avalanche Lake, and Crater Lake. The Conundrum Hot Springs are also present.



Cathedral Lake

Special or Distinctive Features: Features include Castle Peak, Conundrum Peak, Pyramid Peak, Maroon Bells, Burnt Mountain, Mount Sopris, and West Elk Scenic Byway.

Communities: The town of Redstone in Pitkin County is the only community in this subsection within close vicinity to the White River National Forest. Redstone was settled as a mining town. The town is now on the National Register of Historic Places. It is a tourism town with well-preserved buildings and recreation activities.

Man-made Elements:

Development stemming from urban influences includes Aspen Mountain and Aspen Highlands ski areas, along with Aspen Mountain and Loge Peak communication sites. Several ski huts are in the backcountry. Campground developments along Maroon Creek Road include Silver Queen, Silver Bar, and Silver Bell.



Maroon Bells

Redstone Campground is also in the Elk Mountain Subsection. There is also evidence of historical mining activities.

Transportation: Castle Creek Road and Maroon Creek Road are popular routes for viewing scenery. Forest development roads include FS 119, FS 102, FS 118, and FS 125. A small portion of Highway 82 near Aspen is in the subsection.

Level of Disturbance: Multiple resource management including historic mining districts, natural processes of fire, livestock grazing, and timber harvesting have all had a role in shaping the existing patterns in the landscape character.

Level of Remoteness/Solitude: The wilderness areas are heavily used and there is little solitude in the areas close to the wilderness boundaries. Once you are in the interior of the wilderness opportunities for solitude exist.



Maroon Bells Wilderness near Moon Lake

Primary Recreation Activities: Heavy recreation use includes backpacking and outfitter/guide use. Winter sports activities include all aspects of skiing. Other activities include hiking, fishing, camping, hunting, mountain biking, and scenery viewing, particularly of the spectacular mountain vistas of the various wilderness areas.

Cultural Landscape Themes: This subsection is dominated by high rugged mountains, where few human attempts to alter the landscape are evident. One exception is the town of Aspen. Though its development continues today, it has preserved both a sense of place and open spaces within the urban envelope (as parks). It may seem artificial and at times arrogantly pretentious with airs of extreme wealth. Still, those with a feel of attachment for its sense of place help preserve its fragile cultural landscape.

Up Castle Creek some nine or ten miles you will find a few buildings from the ghost town of Ashcroft preserved. A resident “ghost,” a history intern student, helps interpret the place every summer. Only because the Forest Service acquired the property around it is this remnant still here. Some buildings have been moved to their present location, but imagination can easily fill in the rest.



Ashcroft

Looking up the valley toward Pearl Pass, which drops off into Crested Butte, the scene from Ashcroft appears mostly as it must have when the mining town was at the height of its influence. If you stayed along the ridge from Pearl Pass you would encounter both Yule and Schofield Passes, also trampled upon by pioneering frontier folks trying to make their mark in the settling of the West. Such names as Pittsburgh and Gothic can be found on the map and on the land. Finding many of these historic landscapes means following primitive four-wheel-drive “roads.” Crystal, with its often-photographed mill perched above the Crystal River as if suspended in space, lies along one of these paths. From it on down the Crystal can be found Marble. Both Marble and Redstone, which is further down the Crystal, have managed to preserve their sense of belonging by their rustic unpretentiousness. Even the Yule Marble quarry, opened again only a few years ago, has not left a huge ugly scar upon the land; rather it seems to have been planned to fit into the natural landscape, whether it was conscious or not. What makes Redstone unique is the Osgood “castle” along with the hotel/restaurant nearby. Built in the same style and with native “red stone,” they likewise seem to belong to the natural landscape out of which they were carved. Across the river and at the terminus of the Crystal and San Juan narrow-gauge railroad, are the Redstone coke ovens. Fine coking coal was brought down the steep mountain by the Coal Basin branch.



Coke Ovens near Redstone Colorado used in the steel making process

Wildlife: The Elk Mountain range includes alpine, subalpine, montane, and lower montane life zones. These life zones and associated wildlife are described as follows: The alpine zone is described as a bare, rocky region covered with snow for the greater part of the year, approximately 11,000 feet to 14,000+ feet.

Big game wildlife species include elk, mule deer, black bear, mountain goat, and mountain lion. Smaller species include coyote, marmot, pika, and pocket gopher. Birds that characterize the alpine zone include the white-tailed ptarmigan, pipit – summer migrant, and rosy finch. The grizzly bear historically was found in this zone.

The sub-alpine zone is described as the upper spruce/fir zone up to timberline, where the trees begin to be dwarfed. The following wildlife species are resident or were historically found in this zone: many of the above species plus pine marten, lynx – status unknown, pine grosbeak, brown creeper, and golden crowned kinglet.

Extensive forest belts of aspen and lodgepole pine characterize the montane life zone and the lower part of the Engelmann spruce belt. This zone also has intermingled mixed aspen and Engelmann spruce or grassy parks and aspen mixed. Wildlife species that are residents or were historically found in this zone include snowshoe hare, red squirrel, yellow-bellied marmot, Colorado pocket gopher, black bear, marten, gray jay, olive-sided flycatcher, blue grouse, Lincoln sparrow, and garter snakes.

The lower montane zone is an intermediate between the semi-arid lowlands and the subalpine zones. This life zone has similar tree species as the montane zone described above; however, this zone tends to be drier and the lodgepole pine and aspen forests tend not to be overtaken by spruce-fir succession. Species that characterize but are not restricted to this life zone are very similar to the montane zone above. The lower montane serves as transition, early spring habitat for migrating species such as Rocky Mountain elk and mule deer. Additionally, this zone provides nesting for red-tail hawk, goshawk, and many other birds described in other life zones.

Fish species common in this subsection include speckled dace, mottled sculpin, bluehead sucker, roundtail chub, and rare Colorado River cutthroat trout. Mountain whitefish are found in the lowest reaches and are rare above 7,000 feet.

